

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A hot-rolled wire rod consisting essentially of (in mass%):

C: 0.6 to 1.0%,

Si: ~~0.1 to 1.5%~~ 0.1 to 0.85%,

Mn: 0.3 to 1.0%,

P: ~~0.02% or less~~ 0.01% or less,

S: 0.02% or less, and

at least one element selected from the group consisting of Nb, V, Ti, Hf and

Zr: 0.1% or less (excluding zero) in total;

wherein said hot-rolled wire rod is

5.0 mm or more in diameter;

not less than 90% of said wire rod in area percentage comprises a pearlite structure;

and

the mechanical properties of said wire rod 4 m in length satisfy the following expressions (1) to (4):

(1)  $TS^*-30 \leq \text{Average value of tensile strength (TS}_{AV} \text{ in MPa)} \leq TS^*+30$ ,

where,  $TS^* = 400 \times \{[C] + ([Mn] + [Si])/5\} + 670$  and the elements in square brackets [ ]

in the equation mean the contents of relevant elements in percentage,

(2) Standard deviation of tensile strength ( $TS\sigma$ )  $\leq 30$  MPa,

(3) Average value of reduction of area ( $RA_{AV}$ )  $> 35\%$ ,

(4) Standard deviation of reduction of area ( $RA\sigma$ )  $\leq 4\%$ .

Claim 2 (Original): A hot-rolled wire rod according to claim 1, wherein the average diameter of nodules in said pearlite structure is 10  $\mu\text{m}$  or less.

Claim 3 (Previously Presented): A hot-rolled wire rod according to claim 1, said wire rod further comprising:

Cr: 0.3% or less (excluding zero) and/or

Ni: 0.3% or less (excluding zero).

Claim 4 (Canceled).

Claim 5 (Previously Presented): A hot-rolled wire rod according to claim 1, said wire rod further comprising N controlled to 0.01% or less.

Claim 6 (Previously Presented): A hot-rolled wire rod according to claim 1, said wire rod further comprising Al and Mg controlled to 0.05% or less and 0.01% or less, respectively.

Claim 7 (Canceled).

Claim 8 (Currently Amended): A hot-rolled wire rod consisting essentially of (in mass%):

C: 0.6 to 1.0%,  
Si: ~~0.1 to 1.5%~~ 0.1 to 0.85%,  
Mn: 0.3 to 1.0%,  
P: ~~0.02% or less~~ 0.01% or less,  
S: 0.02% or less, and  
B: 0.001 to 0.005%;

wherein said hot-rolled wire rod is

5.0 mm or more in diameter;

not less than 90% of said wire rod in area percentage comprises a pearlite structure;

and

the mechanical properties of said wire rod 4 m in length satisfy the following expressions (1) to (4):

(1)  $TS^*-30 \leq \text{Average value of tensile strength (TS}_{AV} \text{ in MPa)} \leq TS^*+30$ ,

where,  $TS^* = 400 \times \{[C] + ([Mn] + [Si])/5\} + 670$  and the elements in square brackets [ ] in the equation mean the contents of relevant elements in percentage,

(2) Standard deviation of tensile strength ( $TS\sigma$ )  $\leq 30$  MPa,

(3) Average value of reduction of area ( $RA_{AV}$ )  $> 35\%$ ,

(4) Standard deviation of reduction of area ( $RA\sigma$ )  $\leq 4\%$ .

Claim 9 (Previously Presented): A hot-rolled wire rod according to claim 8, wherein the average diameter of nodules in said pearlite structure is 10  $\mu\text{m}$  or less.

Claim 10 (Previously Presented): A hot-rolled wire rod according to claim 8, said wire rod further comprising:

Cr: 0.3% or less (excluding zero) and/or

Ni: 0.3% or less (excluding zero).

Claim 11 (Previously Presented): A hot-rolled wire rod according to claim 8, said wire rod further comprising N controlled to 0.01% or less.

Claim 12 (Previously Presented): A hot-rolled wire rod according to claim 8, said wire rod further comprising Al and Mg controlled to 0.05% or less and 0.01% or less, respectively.

Claim 13 (Currently Amended): A hot-rolled wire rod consisting essentially of (in mass%):

C: 0.6 to 1.0%,

Si: ~~0.1 to 1.5%~~ 0.1 to 0.85%,

Mn: 0.3 to 1.0%,

P: ~~0.02% or less~~ 0.01% or less,

S: 0.02% or less,

B: 0.001 to 0.005%, and

at least one element selected from the group consisting of Nb, V, Ti, Hf and

Zr: 0.1% or less (excluding zero) in total;

wherein said hot-rolled wire rod is

5.0 mm or more in diameter;

not less than 90% of said wire rod in area percentage comprises a pearlite structure;

and

the mechanical properties of said wire rod 4 m in length satisfy the following expressions (1) to (4):

(1)  $TS^*-30 \leq \text{Average value of tensile strength } (TS_{AV} \text{ in MPa}) \leq TS^*+30$ ,

where,  $TS^* = 400 \times \{[C] + ([Mn] + [Si])/5\} + 670$  and the elements in square brackets [ ]

in the equation mean the contents of relevant elements in percentage,

(2) Standard deviation of tensile strength  $(TS\sigma) \leq 30$  MPa,

(3) Average value of reduction of area  $(RA_{AV}) > 35\%$ ,

(4) Standard deviation of reduction of area  $(RA\sigma) \leq 4\%$ .

Claim 14 (Previously Presented): A hot-rolled wire rod according to claim 13, wherein the average diameter of nodules in said pearlite structure is 10  $\mu\text{m}$  or less.

Claim 15 (Previously Presented): A hot-rolled wire rod according to claim 13, said wire rod further comprising:

Cr: 0.3% or less (excluding zero) and/or

Ni: 0.3% or less (excluding zero).

Claim 16 (Previously Presented): A hot-rolled wire rod according to claim 13, said wire rod further comprising N controlled to 0.01% or less.

Claim 17 (Previously Presented): A hot-rolled wire rod according to claim 13, said wire rod further comprising Al and Mg controlled to 0.05% or less and 0.01% or less, respectively.

Claim 18 (Currently Amended): A hot-rolled wire rod obtained by hot rolling a steel composition comprising (in mass%):

C: 0.6 to 1.0%,

Si: ~~0.1 to 1.5%~~ 0.1 to 0.85%,

Mn: 0.3 to 1.0%,

P: ~~0.02% or less~~ 0.01% or less, and

S: 0.02% or less;

performing a first cooling of the wire rod at an average cooling rate of 8 to 20°C/sec in a temperature range of from 900 to 670°C; and

performing a second cooling of the wire rod at an average cooling rate of 1 to 5°C/sec in a temperature range of from 670 to 500°C;

wherein said hot-rolled wire rod is

5.0 mm or more in diameter;

not less than 90% of said wire rod in area percentage comprises a pearlite structure;

and

the mechanical properties of said wire rod 4 m in length satisfy the following expressions (1) to (4):

(1)  $TS^*-30 \leq \text{Average value of tensile strength (TS}_{AV} \text{ in MPa)} \leq TS^*+30$ ,

where,  $TS^* = 400 \times \{[C] + ([Mn] + [Si])/5\} + 670$  and the elements in square brackets [ ] in the equation mean the contents of relevant elements in percentage,

- (2) Standard deviation of tensile strength ( $TS\sigma$ )  $\leq 30$  MPa,
- (3) Average value of reduction of area ( $RA_{AV}$ )  $> 35\%$ ,
- (4) Standard deviation of reduction of area ( $RA\sigma$ )  $\leq 4\%$ .

SUPPORT FOR THE AMENDMENTS

Claims 1-3, 5, 6 and 8-18 are pending. Claims 1, 8, 13 and 18 are currently amended to change the Si content from 0.1-1.5% to 0.1-0.85% (see specification: Steel No. 3, Table 2, page 36), and to change the P content from 0.02% or less to 0.01% or less (see specification: page 14, lines 3-9). No new matter has been entered.